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TO: Bao-Qun Li
Location: REM-3D24/3C18
Art Unit: 1648
Wednesday, March 14, 2007
Case Serial Number: 10/789355

From: Barb O'Bryen
Location: Biotech-Chem Library
Remsen 1a69
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Search Notes

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From: Li, Bao-Qun
Sent: Monday, March 12, 2007 9:13 AM
To: Chan, Christina; STIC-Biotech/ChemLib
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Please prove the rush order of alignment analysis of SEQ ID NO: 5 with SEQ ID NO: 2, 4, 6, 7, and 25. Thank you.

Bao Qun Li M.D
TC 1600
Art Unit 1648
Tel. 517-272-0904
REM, 3C18
Rm. 3D24

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STIC/CHEN, Bao-Qun
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6-8638na
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OY	7262	AAGAAATGCTTATGAGGCTTTCGATATGACACCCGCTGTTTGAATCTCAACGCTCAAG	7321
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 Qy 8642 ATCAAGT 8648
 Db 8632 ATCAAGT 8638

RESULT 3
 US-10-789-355-4-COPY
 : Sequence 4, Application US/10789355
 : GENERAL INFORMATION:
 : APPLICANT: BOEHRINGER INGELHEIM (CANADA) LTD.
 : TITLE OF INVENTION: SELF REPLICATING RNA MOLECULE FROM
 : FILE REFERENCE: 13/083
 : CURRENT APPLICATION NUMBER: US/10/789,355
 : PRIOR FILING DATE: 2004-02-27
 : PRIOR APPLICATION NUMBER: US/10/029,907
 : PRIOR FILING DATE: 2001-12-21
 : PRIOR APPLICATION NUMBER: 60/257,857
 : NUMBER OF SEQ ID NOS: 25
 : SOFTWARE: FastSeq for Windows Version 4.0
 : SEQ ID NO 4
 : LENGTH: 8643
 : TYPE: DNA
 : ORGANISM: HCV
 : FEATURE:
 : NAME/KEY: CDS
 : LOCATION: (1802)...(8407)
 : US-10-789-355-4-COPY

Query Match 99.3%; Score 8584.7; DB 1; Length 8643;
 Best Local Similarity 99.6%; Pred. No. 0;
 Matches 8614; Conservative 0; Mismatches 28; Indels 5; Gaps 1;
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Db 2 CCAGCCCCCGATTGGGGGCGACATCCACATAGATCACTCCCTGTGAGAACTACTGT 61
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Db 62 CTTACGACGAAAGCGTCTAGCCATGGCGCTTAGTATGATGTCTGTACACCTCCAGAAC 121
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Qy 5642 TACGTGAGGTTAGCGGGGTGGGGATTTTCCATCATGCTGACGAGCATGACCATGCAAC 5701
Dh 5642 TACGTGAGGTTAGCGGGGTGGGGATTTTCCATCATGCTGACGAGCATGACCATGCAAC 5701
Qy 5702 GTAAAGTCCCGTGTCAAGTTCGAGTCCCGGCCCAATTTCTTCAAGAAATGATGGGGTCCG 5761
Dh 5702 GTAAAGTCCCGTGTCAAGTTCGAGTCCCGGCCCAATTTCTTCAAGAAATGATGGGGTCCG 5761
Qy 5762 TTGACAGGTTACGCTCAGAGGTGCAACCCCTCTACAGGAGAGTCAATTCCTGTGTC 5821
Dh 5762 TTGACAGGTTACGCTCAGAGGTGCAACCCCTCTACAGGAGAGTCAATTCCTGTGTC 5821
Qy 5822 GGGCTCAATCAATACCTGTGTGGGTCAACAGCTCCATGCGAGCCGGAACCGAGCTAGCA 5881
Dh 5822 GGGCTCAATCAATACCTGTGTGGGTCAACAGCTCCATGCGAGCCGGAACCGAGCTAGCA 5881
Qy 5882 GTGCTCATCTTCATGCTCAACGACCCCTCCCAATTAAGGCGGAGACGCTAAAGCTTAA 5941
Dh 5882 GTGCTCATCTTCATGCTCAACGACCCCTCCCAATTAAGGCGGAGACGCTTAAAGCTTAA 5941
Qy 5942 CTGGCCAGGGGATCTCCCCCTCTGTGGGAGCATACGCTGACAGCTGTCTGGGCC 6001
Dh 5942 CTGGCCAGGGGATCTCCCCCTCTGTGGGAGCATACGCTGACAGCTGTCTGGGCC 6001
Qy 5942 CTGGCCAGGGGATCTCCCCCTCTGTGGGAGCATACGCTGACAGCTGTCTGGGCC 6001
Dh 5942 CTGGCCAGGGGATCTCCCCCTCTGTGGGAGCATACGCTGACAGCTGTCTGGGCC 6001
Qy 6002 TCTTGAAGGCAACATGCACTACCGCTCATGACTCCCGGACGCTGACCTCATGAGGCT 6061
Dh 6002 TCTTGAAGGCAACATGCACTACCGCTCATGACTCCCGGACGCTGACCTCATGAGGCT 6061
Qy 6062 AACCTCTGTGGGGAGGAGAGATGGCGGGGAACATACCCCGCTGAGTCAAAAATTAAG 6121
Dh 6062 AACCTCTGTGGGGAGGAGAGATGGCGGGGAACATACCCCGCTGAGTCAAAAATTAAG 6121
Qy 6122 GTAGTAAATTTGACTCTTTCGAGCGCTCAAGCGGAGGAGATGAGAGGAAATGATCC 6181
Dh 6122 GTAGTAAATTTGACTCTTTCGAGCGCTCAAGCGGAGGAGATGAGAGGAAATGATCC 6181
Qy 6182 GTTCCGGCGGAGATCTCTGGGAGGTCAAGAAATTCCTTGAGAGATGCCATATGGGCA 6241
Dh 6182 GTTCCGGCGGAGATCTCTGGGAGGTCAAGAAATTCCTTGAGAGATGCCATATGGGCA 6241
Qy 6242 CGCCCGGATTAACAACCTCCATCTGTAGAGTCTGTGGAAGAACCCGGATCAAGCTCTCCCA 6301
Dh 6242 CGCCCGGATTAACAACCTCCATCTGTGTGAGTCTGTGGAAGAACCCGGATCAAGCTCTCCCA 6301
Qy 6302 GTGGTACAGGGGTGTCAATGTGCGCTGCAAGGCGCTCCGATACCACTCCACGGAAG 6361
Dh 6302 GTGGTACAGGGGTGTCAATGTGCGCTGCAAGGCGCTCCGATACCACTCCACGGAAG 6361
Qy 6362 AAGAGACGGTGTCTGTCAAGATCTAACCGTGTCTTGTGCTTGGCGGAGCTCGGCACA 6421
Dh 6362 AAGAGACGGTGTCTGTCAAGATCTAACCGTGTCTTGTGCTTGGCGGAGCTCGGCACA 6421
Qy 6422 AAGACTTGGGAGGCTCCGAATCTGTGAGCGGTGCAAGGCGGACCGGCAACGGGCTCTCCT 6481
Dh 6422 AAGACTTGGGAGGCTCCGAATCTGTGAGCGGTGCAAGGCGGACCGGCAACGGGCTCTCCT 6481
Qy 6482 GACAGACCTCTCCAGACGCGGACGCGGGATCCGAGTTCGATCTGTAATCTCTCAATGCC 6541
Dh 6482 GACAGACCTCTCCAGACGCGGACGCGGGATCCGAGTTCGATCTGTAATCTCTCAATGCC 6541
Qy 6542 CCCCTTGAAGGGGAGACCGGGGATCCCGATCTCAGCGAGCGGTCTTGTGTCAACCTTAAGC 6601
Dh 6542 CCCCTTGAAGGGGAGACCGGGGATCCCGATCTCAGCGAGCGGTCTTGTGTCAACCTTAAGC 6601
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Db      1801 CATTGACCGGAGATGGACATCGTCGAGGCGGGTTTTCGTAGCTCATCTT 1860
Qy      1861 GACCTTGTCAACCGCACTATPAAGCTGTCTCGTAGGCTCATATGCTGTTCATATTT 1920
Db      1861 GACCTTGTCAACCGCACTATPAAGCTGTCTCGTAGGCTCATATGCTGTTCATATTT 1920
Qy      1921 TATCACAGAGGCGGAGGACACTTGTGAGTGTGATCCCGCTTAAGCTTGCGGGGG 1980
Db      1921 TATCACAGAGGCGGAGGACACTTGTGAGTGTGATCCCGCTTAAGCTTGCGGGGG 1980
Qy      1981 CCGCGATGCGCTATCTCTCACTGTCGCGGATCCACCGAGCTAATCTTAAACATCAC 2040
Db      1981 CCGCGATGCGCTATCTCTCACTGTCGCGGATCCACCGAGCTAATCTTAAACATCAC 2040
Qy      2041 CAAATCTTGTCTGCGCATCTCGGTCACCTGCTCACTGCTCAAGCTGTATTAACAAAGT 2100
Db      2041 CAAATCTTGTCTGCGCATCTCGGTCACCTGCTCACTGCTCAAGCTGTATTAACAAAGT 2100
Qy      2101 GCGGTACTTCTGCGGCGGACAGGGGCTCATTTGTGATGATGCTGTGCGGAGGTTGC 2160
Db      2101 GCGGTACTTCTGCGGCGGACAGGGGCTCATTTGTGATGATGCTGTGCGGAGGTTGC 2160
Qy      2161 TGGGGGTCAATATGTCCAAATGGCTCTCATGAGTTGGCGGACCTGACAGTACGTAAGT 2220
Db      2161 TGGGGGTCAATATGTCCAAATGGCTCTCATGAGTTGGCGGACCTGACAGTACGTAAGT 2220
Qy      2221 TTATGACATCTCAACCCCACTGCGGAGCTGCGGCCCACTGAGACCTTGGCGGT 2280
Db      2221 TTATGACATCTCAACCCCACTGCGGAGCTGCGGCCCACTGAGACCTTGGCGGT 2280
Qy      2281 GGCAGTTGAGCCCGCTGTCTTCTGTGATATGAGACCAAAGTTATCACTTGCGGGGCGA 2340
Db      2281 GGCAGTTGAGCCCGCTGTCTTCTGTGATATGAGACCAAAGTTATCACTTGCGGGGCGA 2340
Qy      2341 CACCGCGGCGTGTGGGGAATCATCTTGGGCGCTGCGCGCTGCGCGCGGAGGGGGA 2400
Db      2341 CACCGCGGCGTGTGGGGAATCATCTTGGGCGCTGCGCGCTGCGCGCGGAGGGGGA 2400
Qy      2401 GATACATCTGGGACCGGAGACAGCTTTGAAAGGGGAGGGTGGCGACTTCTGCGCGCTAT 2460
Db      2401 GATACATCTGGGACCGGAGACAGCTTTGAAAGGGGAGGGTGGCGACTTCTGCGCGCTAT 2460
Qy      2461 TACGCGCTACTCTCCAAACAGACGCGAGGCTTACTTGTGATCATCACTGCGCGCTCAAG 2520
Db      2461 TACGCGCTACTCTCCAAACAGACGCGAGGCTTACTTGTGATCATCACTGCGCGCTCAAG 2520
Qy      2521 CCGGAGACGGAACGAGGTGAGAGGGGAGGTCCAGTGTCTCAACCGAACCAATCTTT 2580
Db      2521 CCGGAGACGGAACGAGGTGAGAGGGGAGGTCCAGTGTCTCAACCGAACCAATCTTT 2580
Qy      2581 CCTGCGACCTGCGTCAATGCGGTGTGTTGACTGTCTATCATGCTGCGCGCTCAAAAGC 2640
Db      2581 CCTGCGACCTGCGTCAATGCGGTGTGTTGACTGTCTATCATGCTGCGCGCTCAAAAGC 2640
Qy      2641 CTTTCCGCGCCCAAGGGGCCCATCAACCAATGTATCAACAAATGTGACACAGAACCTTGT 2700
Db      2641 CTTTCCGCGCCCAAGGGGCCCATCAACCAATGTATCAACAAATGTGACACAGAACCTTGT 2700
Qy      2701 CCGCTGCGAAGCGCCCGCGGGGCGGTTCTTGAACACATGCACTGCGCGAGCTCGGA 2760
Db      2701 CCGCTGCGAAGCGCCCGCGGGGCGGTTCTTGAACACATGCACTGCGCGAGCTCGGA 2760
Qy      2761 CTTTACTTGTGACAGAGCATGCGATGTCAATTCGCGTGCCTGCGCGGGGAGCAGCAG 2820
Db      2761 CTTTACTTGTGACAGAGCATGCGATGTCAATTCGCGTGCCTGCGCGGGGAGCAGCAG 2820
Qy      2821 GGGAGGCTTACTTCCCGGCGGCTCTCTCACTTGAAGGGCTTTTGGCGGCTGCTCACT 2880
Db      2821 GGGAGGCTTACTTCCCGGCGGCTCTCTCACTTGAAGGGCTTTTGGCGGCTGCTCACT 2880
Qy      2881 GCTCTGCGCCCTCGAGGACAGCTGTGGGATCTTTTGGGCTGCGCGGTGCAACCGGGGGGT 2940
Db      2881 GCTCTGCGCCCTCGAGGACAGCTGTGGGATCTTTTGGGCTGCGCGGTGCAACCGGGGGGT 2940
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Qy      2941 TCGAAGGCGGTGACTTTGTATCCCGTCGAGTCTATGGGAACCAATAGCGTCCCGGT 3000
Db      2941 TCGAAGGCGGTGACTTTGTATCCCGTCGAGTCTATGGGAACCAATAGCGTCCCGGT 3000
Qy      3001 CTTTACGAGCAACTGCTGCCCTCCGGCGGTACCGGACATTCAGTGTGGCCATCTACA 3060
Db      3001 CTTTACGAGCAACTGCTGCCCTCCGGCGGTACCGGACATTCAGTGTGGCCATCTACA 3060
Qy      3061 GCGCCCTTCTGGTACGCGCAAGAGCACTAAGGTGCGGCTGTGTATGACAGCCCAAGGTA 3120
Db      3061 GCGCCCTTCTGGTACGCGCAAGAGCACTAAGGTGCGGCTGTGTATGACAGCCCAAGGTA 3120
Qy      3121 TAAAGTGTGTCTGTAACCCGTCGCGCCCAACCTTAGGTTTGGGGGCTATATGTC 3180
Db      3121 TAAAGTGTGTCTGTAACCCGTCGCGCCCAACCTTAGGTTTGGGGGCTATATGTC 3180
Qy      3181 TAAAGCATGTGTATGACCCCTAATCAAGAACCGGGGTAAAGAACATACACAGGTTGC 3240
Db      3181 TAAAGCATGTGTATGACCCCTAATCAAGAACCGGGGTAAAGAACATACACAGGTTGC 3240
Qy      3241 CCGCATCAAGTACTCCACTATAGCAAGTTCTTGGCGACGCTGTGCTCTGCGGGGGCG 3300
Db      3241 CCGCATCAAGTACTCCACTATAGCAAGTTCTTGGCGACGCTGTGCTCTGCGGGGGCG 3300
Qy      3301 CTATGACATCAATATATGTGATGAGTGCCTCAACTGACTGACCACTATCTTGGGAT 3360
Db      3301 CTATGACATCAATATATGTGATGAGTGCCTCAACTGACTGACCACTATCTTGGGAT 3360
Qy      3361 CCGCAGATCTTGGACCAAGGAGACGCGCTGAGACGCGCACTCGTGTGCTGCGCACCGC 3420
Db      3361 CCGCAGATCTTGGACCAAGGAGACGCGCTGAGACGCGCACTCGTGTGCTGCGCACCGC 3420
Qy      3421 TACGCTCCGGGATCGGTGACCGGTGCCATCCAAACATCGAAGAGTGTGCTGTCCAG 3480
Db      3421 TACGCTCCGGGATCGGTGACCGGTGCCATCCAAACATCGAAGAGTGTGCTGTCCAG 3480
Qy      3481 CACTGGAAGAAATCCCTTTTATGGAAGGATCCCATCGAGACCATCAAGGGGGGAG 3540
Db      3481 CACTGGAAGAAATCCCTTTTATGGAAGGATCCCATCGAGACCATCAAGGGGGGAG 3540
Qy      3541 GCACTCATTTTTCGCAATTCAGAAAGAAATGAGATGACTCCCGGAGAGCTGTCCGG 3600
Db      3541 GCACTCATTTTTCGCAATTCAGAAAGAAATGAGATGACTCCCGGAGAGCTGTCCGG 3600
Qy      3601 CCTGGAACCTCAATCTGTAGATATTAACCGGGGCTTGAATATCCGTCATACCAACTAG 3660
Db      3601 CCTGGAACCTCAATCTGTAGATATTAACCGGGGCTTGAATATCCGTCATACCAACTAG 3660
Qy      3661 CCGAGACGTCAATGTCTGTAAGACAGGACGCTCTATATGACGAGGCTTTTACCGGCAATTTG 3720
Db      3661 CCGAGACGTCAATGTCTGTAAGACAGGACGCTCTATATGACGAGGCTTTTACCGGCAATTTG 3720
Qy      3721 CTCAATGATGACTGCAATATCATGTGTCAACAGACAGTGTCACTTACGCTGACACCGAC 3780
Db      3721 CTCAATGATGACTGCAATATCATGTGTCAACAGACAGTGTCACTTACGCTGACACCGAC 3780
Qy      3781 CTTACCAATTGAGACGACGACCGGTCCCAAGAGCGGCTGTCAAGCTGCGACGCGGAGG 3840
Db      3781 CTTACCAATTGAGACGACGACCGGTCCCAAGAGCGGCTGTCAAGCTGCGACGCGGAGG 3840
Qy      3841 CAGACCTGTATGAGGGGAGATGGCACTTTACAGGTTTGTGACTCCAGAGAACCGGCTTC 3900
Db      3841 CAGACCTGTATGAGGGGAGATGGCACTTTACAGGTTTGTGACTCCAGAGAACCGGCTTC 3900
Qy      3901 GGGATGTGTGATTTCTCGGTTCTGTGCGAGTGTATGAGCGCGGGCTGTGTGTGTAAGA 3960
Db      3901 GGGATGTGTGATTTCTCGGTTCTGTGCGAGTGTATGAGCGCGGGCTGTGTGTGTAAGA 3960
Qy      3961 GCTACCGCCCGGAGACCTCAAGTTAGGTTGCGGGCTTACCTTAAACACACAGGTTGCC 4020
Db      3961 GCTACCGCCCGGAGACCTCAAGTTAGGTTGCGGGCTTACCTTAAACACACAGGTTGCC 4020
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QY	4021	CGTCTCCAGAGACCATCTGGAGTTCTGGAGAGAGGCTCTTTACAGGCTCAACCCACATAGA	4080
Dp	4021	CGTCTCCAGAGACCATCTGGAGTTCTGGAGAGAGGCTCTTTACAGGCTCAACCCACATAGA	4080
QY	4081	CGCCCATTTCTTGTGCCGACTAAGCAGAGCAGAGACAACTTCCCTCACTGATAGATATA	4140
Dp	4081	CGCCCATTTCTTGTGCCGACTAAGCAGAGCAGAGACAACTTCCCTCACTGATAGATATA	4140
QY	4141	CCAGGCTTACGGTGTGCGCCAGAGGCTCAGGCTCCACTTCATCTGTGGACCAATGTGAAA	4200
Dp	4141	CCAGGCTTACGGTGTGCGCCAGAGGCTCAGGCTCCACTTCATCTGTGGACCAATGTGAAA	4200
QY	4201	GTGTCTCATACGGCTTAAAGCCTTAGCTGCACAGGGCCACGCCCCCTGCTGTATAGGCTGGG	4260
Dp	4201	GTGTCTCATACGGCTTAAAGCCTTAGCTGCACAGGGCCACGCCCCCTGCTGTATAGGCTGGG	4260
QY	4261	AGCCGTTCAAAAACGAGGTTACTACCAACAACCCCATTAACAAATACATCATGCAATGCAT	4320
Dp	4261	AGCCGTTCAAAAACGAGGTTACTACCAACAACCCCATTAACAAATACATCATGCAATGCAT	4320
QY	4321	GTCCGCTTACCTGGAGGTCTGTCAAGAGCACTGGGTGTGTGTAGGCGAGTCTTAGCAGC	4380
Dp	4321	GTCCGCTTACCTGGAGGTCTGTCAAGAGCACTGGGTGTGTGTAGGCGAGTCTTAGCAGC	4380
QY	4381	TCTGGCCGCGTATTTGCTCTGCACAAACAGGCAAGCTGTCTATTGTGGCAGAGATCATCTTGTCT	4440
Dp	4381	TCTGGCTTCCGTATTTGCTCTGCACAAACAGGCAAGCTGTCTATTGTGGCAGAGATCATCTTGTCT	4440
QY	4441	CGAAAAGCCGGCCATCATTTCCCGACAGGGAAGTCTTTACCGGGAGTTCCATGTAGATGGA	4500
Dp	4441	CGAAAAGCCGGCCATCATTTCCCGACAGGGAAGTCTTTACCGGGAGTTCCATGTAGATGGA	4500
QY	4501	AGAGTGCCTCTCACACCTCCCTTACATTCGAAACAGGGAATGCAAGCTCGCCGAACATTTCAA	4560
Dp	4501	AGAGTGTGCTCTCACACCTCCCTTACATTCGAAACAGGGAATGCAAGCTCGCCGAACATTTCAA	4560
QY	4561	ACAGAAGGCATTCGGGTGTCTGTCAAACAGCCACCAAGCAAGCGAGGCTGTCTCCCGT	4620
Dp	4561	ACAGAAGGCATTCGGGTGTCTGTCAAACAGCCACCAAGCAAGCGAGGCTGTCTCCCGT	4620
QY	4621	GGTGGAAATCCAAAGTGGCGGACCCCTCGAAAGCCTTCTGGGCGAAAGATATGTGAATTTTCAT	4680
Dp	4621	GGTGGAAATCCAAAGTGGCGGACCCCTCGAAAGCCTTCTGGGCGAAAGATATGTGAATTTTCAT	4680
QY	4681	CAGCGGGAATACAAATATTAGCAGGCTTGTCCACTCTGTCTGCGCAACCCCGCATAGCATC	4740
Dp	4681	CAGCGGGAATACAAATATTAGCAGGCTTGTCCACTCTGTCTGCGCAACCCCGCATAGCATC	4740
QY	4741	ACTGATGGCATTCACAGGCTCTTATACCAAGCCCGCTCACACCCCAACATACCTCTCGTT	4800
Dp	4741	ACTGATGGCATTCACAGGCTCTTATACCAAGCCCGCTCACACCCCAACATACCTCTCGTT	4800
QY	4801	TAACATCTCGGGGGGATGGGTGGCGGCCCACTTGCTCTCCAGAGCTGTCTTGCGTTT	4860
Dp	4801	TAACATCTCGGGGGGATGGGTGGCGGCCCACTTGCTCTCCAGAGCTGTCTTGCGTTT	4860
QY	4861	CGTAGGCGCCCGGACATCGCTGGAGCGGCTGTTGGCAGCATAGGCTTTGGGAAGTGTCTGT	4920
Dp	4861	CGTAGGCGCCCGGACATCGCTGGAGCGGCTGTTGGCAGCATAGGCTTTGGGAAGTGTCTGT	4920
QY	4921	GGATATTTTGGCAGGTTATGAGACGAGGGGTGGCAGGCGCGCTCGTGGCTTTAAGTCAT	4980
Dp	4921	GGATATTTTGGCAGGTTATGAGACGAGGGGTGGCAGGCGCGCTCGTGGCTTTAAGTCAT	4980
QY	4981	GAGCGGCGAATGCCCCCACCGAGAACCTGTGTTAACTTACCTTCCCTGTACTCTCCCTCCC	5040
Dp	4981	GAGCGGCGAATGCCCCCACCGAGAACCTGTGTTAACTTACCTTCCCTGTACTCTCCCTCCC	5040
QY	5041	TGGCGCCCTAGTCGTGGGGGTCTGATGCGACGATATCTGCGTGGGACGCGGGGCCAGG	5100
Dp	5041	TGGCGCCCTTAGTCGTGGGGGTCTGATGCGACGATATCTGCGTGGGACGCGGGGCCAGG	5100
QY	5101	GGAGGGGCTGTGCACTGATGAACCGGCTGTATAGCTTTCGCTTTCGCGGGGTAAACAAT	5160

Db	5101	GGAGGGGGCTGTGAGTGAATGAACCGGCTGATAGCTTGCTTCGCGGGGTAACAAGT	5160
QY	5161	CTCCCCACGCACTATGTGCTTGAGAGCGACGCTGCACGACGTGTCACTCAGATCTCTC	5220
Db	5161	CTCCCCACGCACTATGTGCTTGAGAGCGACGCTGCACGACGTGTCACTCAGATCTCTC	5220
QY	5221	TAGTCTTACCATCACTAGCTGCTGTGAAGAGGCTTCACCACTGATCAACGAGACTGCTC	5280
Db	5221	TAGTCTTACCATCACTAGCTGCTGTGAAGAGGCTTCACCACTGATCAACGAGACTGCTC	5280
QY	5281	CAGCCCATGCTCCGGGCTCGTGGCTAAGAGATGTTTGGGATTTGGGTATGCACGGTTGTAC	5340
Db	5281	CAGCCCATGCTCCGGGCTCGTGGCTAAGAGATGTTTGGGATTTGGGTATGCACGGTTGTAC	5340
QY	5341	TGATTTGAAGACCTGAGCTCCAGTCCAAAGCTCTTGCCGCGATGTCGGGAGTCCCTTCTT	5400
Db	5341	TGATTTGAAGACCTGAGCTCCAGTCCAAAGCTCTTGCCGCGATGTCGGGAGTCCCTTCTT	5400
QY	5401	CTCATGTCAAAGTGGGTATCAAGGGAGTCTGGCGGGGCGAAGCGATCATGTCAAACTCTG	5460
Db	5401	CTCATGTCAAAGTGGGTATCAAGGGAGTCTGGCGGGGCGAAGCGATCATGTCAAACTCTG	5460
QY	5461	CCCATGTGGAGCAACAGATCAACCGGACATGTGAATAATGTTCATATGAGATTCGTGGGGCC	5520
Db	5461	CCCATGTGGAGCAACAGATCAACCGGACATGTGAATAATGTTCATATGAGATTCGTGGGGCC	5520
QY	5521	TAGAACCTGTATGTAAACAGTGGCATGTGAACATTTCCCATTAACGCTATACACACGAGGCC	5580
Db	5521	TAGAACCTGTATGTAAACAGTGGCATGTGAACATTTCCCATTAACGCTATACACACGAGGCC	5580
QY	5581	CTGCAGCGCCCTCCCGGCGCCAAATTATTTAGGGCGCTGTGGCGGGTGCCTGTGAGAA	5640
Db	5581	CTGCAGCGCCCTCCCGGCGCCAAATTATTTAGGGCGCTGTGGCGGGTGCCTGTGAGAA	5640
QY	5641	GTATGTGAGAGTTAACGGGGTGGGGGATTTCCATACGTACCGGGCATGTACACTGACAA	5700
Db	5641	GTATGTGAGAGTTAACGGGGTGGGGGATTTCCATACGTACCGGGCATGTACACTGACAA	5700
QY	5701	CGTAAATGTGCCCGTGTCAAGGTTCCGGGCCCCCGAATTTCTTACAGAAATGTAGTGGGTGCG	5760
Db	5701	CGTAAATGTGCCCGTGTCAAGGTTCCGGGCCCCCGAATTTCTTACAGAAATGTAGTGGGTGCG	5760
QY	5761	GTTCACACAGGATCGCTCCAGCGTGCAAACCCCTCTCTACGGGAGGAGTCACTTCTGTGT	5820
Db	5761	GTTCACACAGGATCGCTCCAGCGTGCAAACCCCTCTCTCTACGGGAGGAGTCACTTCTGTGT	5820
QY	5821	CGGGCTCAATCAAACTGCTGTGGGTTCACAGCTCCCATTTGGGACGCCGAACCCGACGTAAGC	5880
Db	5821	CGGGCTCAATCAAACTGCTGTGGGTTCACAGCTCCCATTTGGGACGCCGAACCCGACGTAAGC	5880
QY	5881	AGTCTCACTTCCATGTCTCAACCGAACCCCTCCCACTTAACGGCGGAGACGGCTAAAGCTAG	5940
Db	5881	AGTCTCACTTCCATGTCTCAACCGAACCCCTCCCACTTAACGGCGGAGACGGCTAAAGCTAG	5940
QY	5941	GCTGGCCAGGGAGTCTCCCCCTCTCTTGGCCAGCTCATACGTACGCCAGCTGTCTGCGCC	6000
Db	5941	GCTGGCCAGGGAGTCTCCCCCTCTCTTGGCCAGCTCATACGTACGCCAGCTGTCTGCGCC	6000
QY	6001	CTCTCTGAAGCAACATGCATACCCGTATATGACTCCCCGGGACGCTCACTCATCCAGGC	6060
Db	6001	CTCTCTGAAGCAACATGCATACCCGTATATGACTCCCCGGGACGCTCACTCATCCAGGC	6060
QY	6061	CAACCTCTGTGGGGGAGAGATGGGCGGGGAACATACCCGCGTGGAGTCAAGAAATAA	6120
Db	6061	CAACCTCTGTGGGGGAGAGATGGGCGGGGAACATACCCGCGTGGAGTCAAGAAATAA	6120
QY	6121	GGTAGTAATTTTGGACTCTTTCGAGCCGCTTCAAGCGGAGAGAGATGAGGGAAGTATC	6180
Db	6121	GGTAGTAATTTTGGACTCTTTCGAGCCGCTTCAAGCGGAGAGAGATGAGGGAAGTATC	6180
QY	6181	CGTTCCGGCGAGATCTCTGGGAGGTCAGAGAAATTCCTTCAGCCATGCCCATATGGGC	6240
Db	6181	CGTTCCGGCGAGATCTCTGGGAGGTCAGAGAAATTCCTTCAGCCATGCCCATATGGGC	6240

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Dh 6181 GGTCCGGCGGAGATCTCGCGGAGGTCCAGGAAATTCCTCGAGCGATGCCATATAGGCG 6240
Oy 6241 ACGCCCGGATTAACAACCTCTCACTGTAGAGTCTCGAAAGAACCCGCGACTAGTCCCTCC 6300
Db 6241 ACGCCCGGATTAACAACCTCTCACTGTAGAGTCTCGAAAGAACCCGCGACTAGTCCCTCC 6300
Oy 6301 AGTGGTACACGGGTTGCTTCCAGTTCGCGCCCTGCGCAAGGCCCTCCGATATACCACTTCCAGGAG 6360
Db 6301 AGTGGTACACGGGTTGCTTCCAGTTCGCGCCCTGCGCAAGGCCCTCCGATATACCACTTCCAGGAG 6360
Oy 6361 GAAAGAGACGGTGTCTCTGTAGAAATCTACCGTGTCTTCTGCTTGGCGGAGCTGCCAC 6420
Db 6361 GAAAGAGACGGTGTCTCTGTAGAAATCTACCGTGTCTTCTGCTTGGCGGAGCTGCCAC 6420
Oy 6421 AAAAGACCTTCGCGACCTCCGATTCGTCGCGCCGCTCGACAGCGGCAAGCGGCTCTCC 6480
Db 6421 AAAAGACCTTCGCGACCTCCGATTCGTCGCGCCGCTCGACAGCGGCAAGCGGCTCTCC 6480
Oy 6481 TGACCAAGCCCTCCGACGACGCGGAGATCCGAGCTTGAGTGTACTCTCCATGCC 6540
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Oy 6601 CGAGGAGGCTAGTGAAGAGAGTCTGCTGCTGCTGATCTTCAACATGAGAGCGGCT 6660
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Oy 6661 GATCAGCGCATTCGCTGCGGAGGAAACCAAGTCCCATCAATGCACTGAAGCACTTTT 6720
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Db 7021 TGAAGACCAATTGAACAACCAATCATGGAAGGATTTTCTGCTGCAACGAGA 7080
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Oy 7261 GAAAGAAATGCGCCCTTAAACAATGCTTAAATTTGGCTATGAGGCAAAAGGCTTCTG 7320
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Oy 7321 GAATGACATCCGCTTGAAGAGTCAATCTCAATGTTGTGACTTGGCCCCGAAGCCAG 7380
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Db 7501 TAAATACCTCAATGTTACTTTGAAGGCGCTGCGGCTGTGAGCTGGAAGCTTCAGGA 7560
Oy 7561 CTGACGATGCTCGTATTCGCGAGACGACCTTGTGTGTTATCTGTGAAAGCGCGGAGCCCA 7620
Db 7561 CTGACGATGCTCGTATTCGCGAGACGACCTTGTGTGTTATCTGTGAAAGCGCGGAGCCCA 7620
Oy 7621 AGAGGACGAGGCGAGCCTTACGCGGCTTACGAGAGGCTATGACTAGATATCTGCCCCC 7680
Db 7621 AGAGGACGAGGCGAGCCTTACGCGGCTTACGAGAGGCTATGACTAGATATCTGCCCCC 7680
Oy 7681 TGGGGAACCCGCGCAACAGAAATACGACTTGAAGTTAATCAATCATGCTTCCAAATGT 7740
Db 7681 TGGGGAACCCGCGCAACAGAAATACGACTTGAAGTTAATCAATCATGCTTCCAAATGT 7740
Oy 7741 GTCAGTGCGGACGATGATCTGCGCAAAAGGTTTACTATCTCAACCGGTGACCCCAAC 7800
Db 7741 GTCAGTGCGGACGATGATCTGCGCAAAAGGTTTACTATCTCAACCGGTGACCCCAAC 7800
Oy 7801 CCCCCCTTGGCGGCTGCGGTGAGAGACAGCTTGAACAACCTCCAGTCAATTCCTGGCTAGG 7860
Db 7801 CCCCCCTTGGCGGCTGCGGTGAGAGACAGCTTGAACAACCTCCAGTCAATTCCTGGCTAGG 7860
Oy 7861 CAACATCATCATGATGATGCGGCACTTGTGAGGCAAGGATCTGATGACTCAATTTCTT 7920
Db 7861 CAACATCATCATGATGATGCGGCACTTGTGAGGCAAGGATCTGATGACTCAATTTCTT 7920
Oy 7921 CTCATCTCTTGAAGTCAAGGAAACAATTGAAAGGCCCTGATGATCTGACGAGTCAAGGAGC 7980
Db 7921 CTCATCTCTTGAAGTCAAGGAAACAATTGAAAGGCCCTGATGATCTGACGAGTCAAGGAGC 7980
Oy 7981 CTGTTACTCAATGAGGCACTTGAACCTACCTCAAGATCATTCACGACTTCCAGGCTTAA 8040
Db 7981 CTGTTACTCAATGAGGCACTTGAACCTACCTCAAGATCATTCACGACTTCCAGGCTTAA 8040
Oy 8041 CGCATTTTCACTCCATAGTTACTCTCCAGGTGAGATCAATAGGTTGCTTCAATGCTCAG 8100
Db 8041 CGCATTTTCACTCCATAGTTACTCTCCAGGTGAGATCAATAGGTTGCTTCAATGCTCAG 8100
Oy 8101 GAAATCTTGGGTTACCGGCTTGGAGGCTGGAACATCGGAGCAAGGCTGCGGCTAG 8160
Db 8101 GAAATCTTGGGTTACCGGCTTGGAGGCTGGAACATCGGAGCAAGGCTGCGGCTAG 8160
Oy 8161 GCTACGTGCTCCAGGCGGAGGCTGCACTTGTGGAATTAATCTTCAACTGCGGAGT 8220
Db 8161 GCTACGTGCTCCAGGCGGAGGCTGCACTTGTGGAATTAATCTTCAACTGCGGAGT 8220
Oy 8221 AAGGACCAAGCTCAATCTCAATCCGCGCTGAGCTCCAGTGTGATTTATCAGCTG 8280
Db 8221 AAGGACCAAGCTCAATCTCAATCCGCGCTGAGCTCCAGTGTGATTTATCAGCTG 8280
Oy 8281 GTTCGTTGCTGTTTACAGCGGCGGAGACATATATCACAGCTGTCTGTCGCGACCCG 8340
Db 8281 GTTCGTTGCTGTTTACAGCGGCGGAGACATATATCACAGCTGTCTGTCGCGACCCG 8340
Oy 8341 CTGGTTCAGTGGGCTTACTTCCATCTTGTATGAGGCTTGGATCTATCTACCTCCCA 8400
Db 8341 CTGGTTCAGTGGGCTTACTTCCATCTTGTATGAGGCTTGGATCTATCTACCTCCCA 8400
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QY 8401 CCGATGAACGGGAGCTAAACACTCCAGGCCAATAGGCCATCTGTTTTTCCCTTTT 8460
Db 8401 CCGATGAACGGGAGCTAAACACTCCAGGCCAATAGGCCATCTGTTTTTCC----- 8455
QY 8461 TCCCTTCCCTTTT 8520
Db 8456 -----TTTCTCCTTTT 8510
QY 8521 TTCCCTTTTTTTTTTCTTTCTTTCTTTGCTGCTCATCTTAAGCCCTAGTACAAGGCT 8580
Db 8511 TTTTCTCTTTTTTCTTTCTTTCTTTGCTGCTCATCTTAAGCCCTAGTACAAGGCT 8570
QY 8581 AGCTGTGAAGAGTCCGTAGAGCGCTTGACTGACAGAGAGTGTGACTGAGCTCTTGA 8640
Db 8571 AGCTGTGAAGAGTCCGTAGAGCGCTTGACTGACAGAGAGTGTGACTGAGCTCTTGA 8630
QY 8641 GATCAAGT 8648
Db 8631 GATCAAGT 8638

RESULT 5
US-10-789-355-25-COPY
; Sequence 25, Application US/10789355
; GENERAL INFORMATION:
; APPLICANT: BOEHRINGER INGELHEIM (CANADA) LTD.
; TITLE OF INVENTION: SELF REPLICATING RNA MOLECULE FROM
; TITLE OF INVENTION: HEPATITIS C VIRUS
; FILE REFERENCE: 13/083
; CURRENT APPLICATION NUMBER: US/10/789,355
; CURRENT FILING DATE: 2004-02-27
; PRIOR APPLICATION NUMBER: US/10/029,907
; PRIOR FILING DATE: 2001-12-21
; PRIOR APPLICATION NUMBER: 60/257,857
; PRIOR FILING DATE: 2000-12-22
; NUMBER OF SEQ ID NOS: 25
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 25
; LENGTH: 8638
; TYPE: DNA
; ORGANISM: HCV
; FEATURE:
; NAME/KEY: CDS
; LOCATION: (1802)...(8407)
US-10-789-355-25-COPY

Query Match 99.2%; Score 8577.2; DB 1; Length 8638;
Best Local Similarity 99.6%; Pred. No. 0;
Matches 8609; Conservative 0; Mismatches 28; Indels 10; Gaps 1;
QY 2 CCAAGCCCCGAGTGGGGGCGACACTCCACCATAGTCACTCCCTGTCAGGAACCTACTGT 61
Db 2 CCAAGCCCCGAGTGGGGGCGACACTCCACCATAGTCACTCCCTGTCAGGAACCTACTGT 61
QY 62 CTTACGAGAAAGGCTTAGCCATGAGCTTAGTATGATGTCGTCAGCTCCAGAGAC 121
Db 62 CTTACGAGAAAGGCTTAGCCATGAGCTTAGTATGATGTCGTCAGCTCCAGAGAC 121
QY 122 CCCCCTCCCGAGAGACCATAGTGTCTGCGAGAACCGGTGAGTACACCGGAATTGCGAG 181
Db 122 CCCCCTCCCGAGAGACCATAGTGTCTGCGAGAACCGGTGAGTACACCGGAATTGCGAG 181
QY 182 ACGACCGGGTCTTTCTTGATCAACCGCTCAATGAGCTTGAGATTTGGGGTGGCCCCG 241
Db 182 ACGACCGGGTCTTTCTTGATCAACCGCTCAATGAGCTTGAGATTTGGGGTGGCCCCG 241
QY 242 CGAGACTCTAGCCGAGTATGTTGGTTCGCAAAAGCCTTGCTGCTAGTAAAGG 301
Db 242 CGAGACTCTAGCCGAGTATGTTGGTTCGCAAAAGCCTTGCTGCTAGTAAAGG 301
QY 302 TGTCTGAGTGTCCCGGAGAGTCTGTGACCGTGCACCATGACAGAACTCTAAAC 361
Db 302 TGTCTGAGTGTCCCGGAGAGTCTGTGACCGTGCACCATGACAGAACTCTAAAC 361

QY 362 TCAAGAAAAACCAAGAGGCGCCCATGATTGAACAAGATGATTGACAGAGTTCTCC 421
Db 362 TCAAGAAAAACCAAGAGGCGCCCATGATTGAACAAGATGATTGACAGAGTTCTCC 421
QY 422 GCGCGCTTGGGTGAGAGGCTATTGCGCTATGACTGAGGCAACAAGACAATCGGCTGCTC 481
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QY 482 TGATGCCCGGTGTTCCGGCTGTCAAGCGAGGGCGCGGCTTTTGTCAAGACCGA 541
Db 482 TGATGCCCGGTGTTCCGGCTGTCAAGCGAGGGCGCGGCTTTTGTCAAGACCGA 541
QY 542 CTTGTCGGGTGCCCTGAATGAACCTGACAGAGCAAGGACGAGGCTATCGTGGCTGAC 601
Db 542 CTTGTCGGGTGCCCTGAATGAACCTGACAGAGCAAGGACGAGGCTATCGTGGCTGAC 601
QY 602 GACGAGGCTTCTTTCGACGCTGTGCTGACGTTGTCACTGAAGCGGAAAGGACTG 661
Db 602 GACGAGGCTTCTTTCGACGCTGTGCTGACGTTGTCACTGAAGCGGAAAGGACTG 661
QY 662 GCTATTGGGCGAAGTCCCGGCGAGAGTCTCTGTATCTCACTTCTCTCTGCGGAA 721
Db 662 GCTATTGGGCGAAGTCCCGGCGAGAGTCTCTGTATCTCACTTCTCTCTGCGGAA 721
QY 722 AGTATCCATCATGCTGATGCAATGCGGCGGCTGACATGCTGATCGGCTACCTGCC 781
Db 722 AGTATCCATCATGCTGATGCAATGCGGCGGCTGACATGCTGATCGGCTACCTGCC 781
QY 782 ATTGACCAACCAAGCAAGCATGCTGACGAGCAAGTACTCGATGGAAGCGGCT 841
Db 782 ATTGACCAACCAAGCAAGCATGCTGACGAGCAAGTACTCGATGGAAGCGGCT 841
QY 842 TGTGATCAGGATATCTGACCAAGAGCATCAGGGGCTGGCGACCGCACTGTTCCG 901
Db 842 TGTGATCAGGATATCTGACCAAGAGCATCAGGGGCTGGCGACCGCACTGTTCCG 901
QY 902 CAGGCTCAAGCGCGCATGCGCCGACGAGAGATCTGTGTGACCATGCGATGCTG 961
Db 902 CAGGCTCAAGCGCGCATGCGCCGACGAGAGATCTGTGTGACCATGCGATGCTG 961
QY 962 CTTGCCAATATCATGTGTGAAAAATGCGCGCTTTCTGATTCATCGACTGCGCGCT 1021
Db 962 CTTGCCAATATCATGTGTGAAAAATGCGCGCTTTCTGATTCATCGACTGCGCGCT 1021
QY 1022 GGGTGTGCGGACCGCTATCAGGACATAGCGTGTGCTAACCGGTATTTGCTGAAGGCT 1081
Db 1022 GGGTGTGCGGACCGCTATCAGGACATAGCGTGTGCTAACCGGTATTTGCTGAAGGCT 1081
QY 1082 TGGGCGGGAATGGGCTGACCGGCTTCCGTGCTTTACGTTATGCGCGCTCCGATTGCGA 1141
Db 1082 TGGGCGGGAATGGGCTGACCGGCTTCCGTGCTTTACGTTATGCGCGCTCCGATTGCGA 1141
QY 1142 GCGCATGCGCTTCTATGCGCTTCTTGAAGATTCTTGAAGTTGCGCGCCAGATGTTAAC 1201
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QY 1202 AGACCAACAAGGTTTCCCTCTAGCGGGATCAATTCGCCCCCCCCCTTAACGTTACTGCG 1261
Db 1202 AGACCAACAAGGTTTCCCTCTAGCGGGATCAATTCGCCCCCCCCCTTAACGTTACTGCG 1261
QY 1262 CGAAGCGGCTTGAATAAGGCGGCTGCGGTTGTCTAATATGTTATTTTCAACCATTTG 1321
Db 1262 CGAAGCGGCTTGAATAAGGCGGCTGCGGTTGTCTAATATGTTATTTTCAACCATTTG 1321
QY 1322 CCGTCTTTTGGCAATGTAAGGCGCCGGAACCTGCGCCTGCTTCTTGAAGAGATTCT 1381
Db 1322 CCGTCTTTTGGCAATGTAAGGCGCCGGAACCTGCGCCTGCTTCTTGAAGAGATTCT 1381
QY 1382 AGGGGTCTTTCCCTCTGCGCAAGGAATGAAGTCTGTTGAATGTCGTGAAGGAAGCA 1441
Db 1382 AGGGGTCTTTCCCTCTGCGCAAGGAATGAAGTCTGTTGAATGTCGTGAAGGAAGCA 1441

QY	1442	GTTCCTCTGGAAGCTTCTTGAAGA	CAAAACAAGCTCTGAGGACCCCTTGGACGACGG	1501
Db	1442	GTTCCTCTGGAAGCTTCTTGAAGA	CAAAACAAGCTCTGAGGACCCCTTGGACGACGG	1501
QY	1502	AACCCCCACCTGGGGAGACGGGGCTCTGGCGGCCAAAGGCAACCGGTATTAAGTATACCT		1561
Db	1502	AACCCCCACCTGGGGAGACGGGGCTCTGGCGGCCAAAGGCAACCGGTATTAAGTATACCT		1561
QY	1562	GCAAAAGCGGCA	CAACCCCAAGTGCACCGTGTGAGTTGATATGTTGTGGAAGAAGTCAAA	1621
Db	1562	GCAAAAGCGGCA	CAACCCCAAGTGCACCGTGTGAGTTGATATGTTGTGGAAGAAGTCAAA	1621
QY	1622	TGGCTCTCTCTCAAGCGTATTTCAACAAGGGCGCTGAAGAGTCCAGAAAGTAAACCCCATTTGT		1681
Db	1622	TGGCTCTCTCTCAAGCGTATTTCAACAAGGGCGCTGAAGAGTCCAGAAAGTAAACCCCATTTGT		1681
QY	1682	ATGGGATCTGATCTGGGGGCTCGGGGCAATGCTTTAATATGTTTAACTCGAGGTAAAA		1741
Db	1682	ATGGGATCTGATCTGGGGGCTCGGGGCAATGCTTTAATATGTTTAACTCGAGGTAAAA		1741
QY	1742	AACGCTAGGCGCCCCCGGAACACGCGGGACGTGTCTTCTTGA AAAACAAGTATTAAC		1801
Db	1742	AACGCTAGGCGCCCCCGGAACACGCGGGACGTGTCTTCTTGA AAAACAAGTATTAAC		1801
QY	1802	ATGGAACGGGAGATGGACGATCGTGGAGGCGCGGTTTTT	CGTAGTCTGATACCTCTTG	1861
Db	1802	ATGGAACGGGAGATGGACGATCGTGGAGGCGCGGTTTTT	CGTAGTCTGATACCTCTTG	1861
QY	1862	ACCTTGTCACCGCACTATTAAGCTGTCTCTCGCTAGGCTCAATATGTTGTTTCAATATTTT		1921
Db	1862	ACCTTGTCACCGCACTATTAAGCTGTCTCTCGCTAGGCTCAATATGTTGTTTCAATATTTT		1921
QY	1922	ATCACAAGGCGGAGGACCACTTGGCAATGTGGAATCCCCCCTCAACGTT	CGGAGGGGGGCG	1981
Db	1922	ATCACAAGGCGGAGGACCACTTGGCAATGTGGAATCCCCCCTCAACGTT	CGGAGGGGGGCG	1981
QY	1982	CGCGATGCGGTATCTCTCTCAACGTGCGCATCAACCCAGAGCTATCTTTACCATCAC		2041
Db	1982	CGCGATGCGGTATCTCTCTCAACGTGCGCATCAACCCAGAGCTATCTTTACCATCAC		2041
QY	2042	AAAATCTTGTCTCGCATATCTGCGTCACTCATGTGCTCCAGGCTGGTATTAACAAAGTG		2101
Db	2042	AAAATCTTGTCTCGCATATCTGCGTCACTCATGTGCTCCAGGCTGGTATTAACAAAGTG		2101
QY	2102	CCGATCTCTGCGCGGCAACGGGCTCATTTGTCATGACATGCAAGTCTGGTGGGAAAGTTGCT		2161
Db	2102	CCGATCTCTGCGCGGCAACGGGCTCATTTGTCATGACATGCAAGTCTGGTGGGAAAGTTGCT		2161
QY	2162	GGGGGTCTATTATGTCCAAATGGCTCTCATGAAATTTGGCCGCACTGACAGGTACGTAAGTT		2221
Db	2162	GGGGGTCTATTATGTCCAAATGGCTCTCATGAAATTTGGCCGCACTGACAGGTACGTAAGTT		2221
QY	2222	TATGACCATCTCACCCCACTGCGGAGCTGGGCCACGCGGGCTTACGAGACCTTGCGGTG		2281
Db	2222	TATGACCATCTCACCCCACTGCGGAGCTGGGCCACGCGGGCTTACGAGACCTTGCGGTG		2281
QY	2282	GCAGTTGAGCCCGTGTCTCTCTGATATGGAACAAAGTTATCACTGCGGGGGGACAG		2341
Db	2282	GCAGTTGAGCCCGTGTCTCTCTGATATGGAACAAAGTTATCACTGCGGGGGGACAG		2341
QY	2342	ACCGCGGCTGTGGGAGCATCATCTTGGGCTGCGCGCTTCCGCGCCGACGGGGAGGAG		2401
Db	2342	ACCGCGGCTGTGGGAGCATCATCTTGGGCTGCGCGCTTCCGCGCCGACGGGGAGGAG		2401
QY	2402	ATPACATCTGGGACCGGAGACAGCCTTTGAAGGGCAAGGGGTGGCGACTCTTGCGCGCTAAT		2461
Db	2402	ATPACATCTGGGACCGGAGACAGCCTTTGAAGGGCAAGGGGTGGCGACTCTTGCGCGCTAAT		2461
QY	2462	ACGGGCTATCTCCAAACGAACGCGAGGCTTATTTGGCTGACATCACTAAGCTTCAAGGC		2521
Db	2462	ACGGGCTATCTCCAAACGAACGCGAGGCTTATTTGGCTGACATCACTAAGCTTCAAGGC		2521
QY	2522	CGGAGCAGGAACAGGTTCGAGGGGAGGTCCAAATGTGTCTTCCACCGCAACAATCTTTTC		2581

Db	2522	CGGGACAAGAACAGAGTTCAGAGGGGAGGTCCAAATGGTCTCCACCGCAACAATCTTTC	2581
QY	2582	CTGGGGACTTCGTCGAATGAGGGTGGTGTGGACCTGTCTATCATATGGTCGCGCTCAAGACC	2641
Db	2582	CTGGGGACTTCGTCGAATGAGGGTGGTGTGGACCTGTCTATCATATGGTCGCGCTCAAGACC	2641
QY	2642	CTTGGCGGCGCCAAAGGGGCCCAATCAACCCAAATGTATCAACAATGTGTGACCAAGAACCTCGTC	2701
Db	2642	CTTGGCGGCGCCAAAGGGGCCCAATCAACCCAAATGTATCAACAATGTGTGACCAAGAACCTCGTC	2701
QY	2702	GAGTGGCAAGCGCCCCCGGGGCGCGTTTCTTGAACACCATGCACTGCGGAGCTCGGAC	2761
Db	2702	GAGTGGCAAGCGCCCCCGGGGCGCGTTTCTTGAACACCATGCACTGCGGAGCTCGGAC	2761
QY	2762	CTTTACTTTGTGCAGAGGCAATGCCGATGTCAATTCGCGTGGCCCGGCGGGGGAACAGACAG	2821
Db	2762	CTTTACTTTGTGCAGAGGCAATGCCGATGTCAATTCGCGTGGCCCGGCGGGGGAACAGACAG	2821
QY	2882	GGAGAGCTACTCTCCCCCAAGCGCGGTCTCCACTTTGAAGGGCTCTTGCGGGCGGTCACTG	2881
Db	2882	GGAGAGCTACTCTCCCCCAAGCGCGGTCTCCACTTTGAAGGGCTCTTGCGGGCGGTCACTG	2881
QY	2882	CTTGGCCCCCTGGGGGCAAGCTGTGGGACATTTTGCGGCTGGCGGTGACCCGAGGGGTT	2941
Db	2882	CTTGGCCCCCTGGGGGCAAGCTGTGGGACATTTTGCGGCTGGCGGTGACCCGAGGGGTT	2941
QY	2942	GCGAAGCGGTGTGACCTTTGTACCCGTGAGCTATGTGAACCACTATAGCGGTCCCGGTC	3001
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QY	3002	TTCAACGAGCAACTGTCGCCCTCGGAGCGTACCGGACATTTCAAGTGGGCCATCTACAC	3061
Db	3002	TTCAACGAGCAACTGTCGCCCTCGGAGCGTACCGGACATTTCAAGTGGGCCATCTACAC	3061
QY	3062	GCCCCCTACTGGTAGCGGCAAGAGCACTAAGGTGCGGCTGGTATGTGACGCCCAAGGGTAT	3121
Db	3062	GCCCCCTACTGGTAGCGGCAAGAGCACTAAGGTGCGGCTGGTATGTGACGCCCAAGGGTAT	3121
QY	3122	AAGGTGCTTGTCTTGAAACCGGTCCGTGCGCGCACCTTAGGTTTGGGGCGTATATGTCT	3181
Db	3122	AAGGTGCTTGTCTTGAAACCGGTCCGTGCGCGCACCTTAGGTTTGGGGCGTATATGTCT	3181
QY	3182	AAGGCAATGCTATCGAACCTTAATATGAAACCGGGGTTAAGAACATCAACAAGGGTGC	3241
Db	3182	AAGGCAATGCTATCGAACCTTAATATGAAACCGGGGTTAAGAACATCAACAAGGGTGC	3241
QY	3242	CCCATCAAGTACTCAACTATGCGCAAGTTTCTTGCCGACGAGTGGTTCCTGTGGGGGCGCC	3301
Db	3242	CCCATCAAGTACTCAACTATGCGCAAGTTTCTTGCCGACGAGTGGTTCCTGTGGGGGCGCC	3301
QY	3302	TATGACATCATATATATGTATGATGATGTCACATCTGACCACTATCTGTGGGATC	3361
Db	3302	TATGACATCATATATATGTATGATGATGTCACATCTGACCACTATCTGTGGGATC	3361
QY	3362	GGCAACATCTCTGAGCAAGGCGGAGACGGCTGTGAGCGGGAATTCGTGTGTCTCGCACCGCT	3421
Db	3362	GGCAACATCTCTGAGCAAGGCGGAGACGGCTGTGAGCGGGAATTCGTGTGTCTCGCACCGCT	3421
QY	3422	ACGCGCTCGGGATCGTTCACCGGTGCAATTCGAACATCGAAGGAGTGGCTGTGTCCAGC	3481
Db	3422	ACGCGCTCGGGATCGTTCACCGGTGCAATTCGAACATCGAAGGAGTGGCTGTGTCCAGC	3481
QY	3482	ACTGAGAGAAATCCCTTTTATGCGAAGGCAATCCCATCGAGACATCAAGGGGGGAGG	3541
Db	3482	ACTGAGAGAAATCCCTTTTATGCGAAGGCAATCCCATCGAGACATCAAGGGGGGAGG	3541
QY	3542	CACCTCATTTTCTGCACTTCAGAGAAATGAGATGAGTCCGCGGAGAGCTGTCCGAC	3601
Db	3542	CACCTCATTTTCTGCACTTCAGAGAAATGAGATGAGTCCGCGGAGAGCTGTCCGAC	3601
QY	3602	CTCGACTCAATGCTGTAGCATTTACCGGGGCGTTGATGTATCCGTATACCACTAGC	3661

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Db 3602 CTCGAGCTCAATGCTGTAGCATATTACCGGGGCTTGTATGTATCCGTATACCAATAGC 3661
Qy 3662 GGAAGCTCATTTGTGTAGCAACGACCGCTCTAATGAGGGGCTTTACCGGCGATTTGCAC 3721
Db 3662 GGAAGCTCATTTGTGTAGCAACGACCGCTCTAATGAGGGGCTTTACCGGCGATTTGCAC 3721
Qy 3722 TCAGTATGCACTGCAATATATGTGTCAACCCAGACAGTGCATTCAGCCTGGACCCGAC 3781
Db 3722 TCAGTATGCACTGCAATATATATGTGTCAACCCAGACAGTGCATTCAGCCTGGACCCGAC 3781
Qy 3782 TTCACCATTTGAGACGACCGCTGCCACAGACGCGGTGTCAACGCTGCCAGCGGAGGC 3841
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Qy 3842 AGGACTGTGATGGGGGAGATGGGGCTTTACAGGTTTGTGACTCCAGGAGAAAGGCCCTCG 3901
Db 3842 AGGACTGTGATGGGGGAGATGGGGCTTTACAGGTTTGTGACTCCAGGAGAAAGGCCCTCG 3901
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Db 3902 GGCATGTTGCAATCTCTCGGTTCTGTGCGAGTGTATGACGCGGGGCTGTGTTGGTACGAG 3961
Qy 3962 CTCACGCCCCCGAGACCTCAGTTAAGTTGCGGGGCTTAACTTAAACACACAGGGTTGCC 4021
Db 3962 CTCACGCCCCCGAGACCTCAGTTAAGTTGCGGGGCTTAACTTAAACACACAGGGTTGCC 4021
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Db 4022 GTCTGCCAGGACCATCTGAGTCTTGGGAGCGCTTTTACAGGCTTACCCACCATTAAC 4081
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Db 4502 GAGTGTGCTTCAACCTCTTTCATCTGAAACAGGAAATGACGCTGCCGAAACAATTCAA 4561
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Db 4802 AACATCTGGGGGAGATGGGTGACCGCCCAACTTGTCTCTCTCCAGCGCTGTCTGCTTTTC 4861
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Db 4862 GTAGGCGCCGAGCATCGCTGAGACCGGCTGTTGGACATAGAGGCTTTGGAAAGTGTGTG 4921
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Db 5162 TCCCCCAGCAGCTATATGTGCTGAGAGGACGCTGACAGCAGTGTGTCACTCAGATCTCTCT 5221
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Db 5402 TCATGTAAAGTGGGTTCAAAGGAGTGTGGCGGGGAGCGGATCATGCAAAACCACTGTC 5461
Qy 5462 CCAATGTGAGACAGATCAACCGACATGTGAAAACTGTTCCATGAGGATGTGGGGCTT 5521
Db 5462 CCAATGTGAGACAGATCAACCGACATGTGAAAACTGTTCCATGAGGATGTGGGGCTT 5521
Qy 5522 AGGACTGTGATACAGCTGGGATGGAACATTTCCCATTAACCGCTTACACACAGGGGCC 5581
Db 5522 AGGACTGTGATACAGCTGGGATGGAACATTTCCCATTAACCGCTTACACACAGGGGCC 5581
Qy 5582 TGCACGCGCTTCCCGGCGCCAAATTTATTTAGGGCGCTGTGGCGGGTGTCTGTAGAGAG 5641
Db 5582 TGCACGCGCTTCCCGGCGCCAAATTTATTTAGGGCGCTGTGGCGGGTGTCTGTAGAGAG 5641
Qy 5642 TACGTGGAGGTTACGCGGGGTGGGGGATTTTCACTACGCTGACGGGACATGACATGACAC 5701
Db 5642 TACGTGGAGGTTACGCGGGGTGGGGGATTTTCACTACGCTGACGGGACATGACATGACAC 5701
Qy 5702 GTAAGTGCCCGTGTGACGTTCCGGCCCGCAATTTCTTCAACAAGATGATGGGGTGGCG 5761
Db 5702 GTAAGTGCCCGTGTGACGTTCCGGCCCGCAATTTCTTCAACAAGATGATGGGGTGGCG 5761
Qy 5762 TTGCAACAGGTAAGCTCCAGGTTGCAAAACCTCTCTACAGGAGGAGGTCAATTCCTGTGTC 5821
Db 5762 TTGCAACAGGTAAGCTCCAGGTTGCAAAACCTCTCTACAGGAGGAGGTCAATTCCTGTGTC 5821
```


5822 GGGCTCAATCAATACCTGGTTGGGTCAAGCTTCCATGCGAGCCCGAACCAGCCTAGCA 5881
5822 GGGCTCAATCAATACCTGGTTGGGTCAAGCTTCCATGCGAGCCCGAACCAGCCTAGCA 5881
5882 GTGCTCACTTCCATGCTCAACGACCCCTCCCATTTAGCGCGAGACGGCTAAGGTTAGG 5941
5882 GTGCTCACTTCCATGCTCAACGACCCCTCCCATTTAGCGCGAGACGGCTAAGGTTAGG 5941
5942 CTGGCCAGGGGATCTCCCCCTCTTGGCCAGCTCATGAGCAAGTGTCTGGCCT 6001
5942 CTGGCCAGGGGATCTCCCCCTCTTGGCCAGCTCATGAGCAAGTGTCTGGCCT 6001
6002 TCCCTGAAGGGAACATGCACTACCTGCTATGATCTCCCGGAGAGCTGACTATGAGGCC 6061
6002 TCCCTGAAGGGAACATGCACTACCTGCTATGATCTCCCGGAGAGCTGACTATGAGGCC 6061
6062 AACCTCTGTGGCGGAGAGATGGGCGGGAACATCACCCGCTGGAAGTCAAGAAATAG 6121
6062 AACCTCTGTGGCGGAGAGATGGGCGGGAACATCACCCGCTGGAAGTCAAGAAATAG 6121
6122 GTAGTAATTTTGGACTCTTTGAGCCGCTCCAGCGGAGAGAGATGAGAGGAAATATCC 6181
6122 GTAGTAATTTTGGACTCTTTGAGCCGCTCCAGCGGAGAGAGATGAGAGGAAATATCC 6181
6182 GTTCCGGGAGAGATCTCTGGAGAGTCCAGAAATTCCTCGAGGATGCCATATGGCA 6241
6182 GTTCCGGGAGAGATCTCTGGAGAGTCCAGAAATTCCTCGAGGATGCCATATGGCA 6241
6242 CGCCCGGATTCACAACTCCATCTGTTAGATGCTGGAAGAGACCGGAGCTAGCTCCCTCA 6301
6242 CGCCCGGATTCACAACTCCATCTGTTAGATGCTGGAAGAGACCGGAGCTAGCTCCCTCA 6301
6302 GTGTGACACGGGATGTCATTGCGCGCTCCAGAGCCCTCCGATACACCTCCAGAGG 6361
6302 GTGTGACACGGGATGTCATTGCGCGCTCCAGAGCCCTCCGATACACCTCCAGAGG 6361
6362 AAGAGAGAGGTTGTCTCTGATGAAATCTACCGTGTCTTCTGCTTGGCGAGAGTCCACA 6421
6362 AAGAGAGAGGTTGTCTCTGATGAAATCTACCGTGTCTTCTGCTTGGCGAGAGTCCACA 6421
6422 AAGACCTTCGGGAGCTCCGAAATCGTGGCGCTGCAAGCGGAGCGGACCGGCTCTCTCT 6481
6422 AAGACCTTCGGGAGCTCCGAAATCGTGGCGCTGCAAGCGGAGCGGACCGGCTCTCTCT 6481
6482 GACCAAGCCCTCCAGAGAGCGGAGCGCGGAGTCCGAGCTTGAAGTGAATCTCTCATGACC 6541
6482 GACCAAGCCCTCCAGAGAGCGGAGCGCGGAGTCCGAGCTTGAAGTGAATCTCTCATGACC 6541
6542 CCCCTTGAAGGAGGAGCCGGGGGATCCCGATCTCAGCGAGCGGGTCTTGGTCTACCGTAAAC 6601
6542 CCCCTTGAAGGAGGAGCCGGGGGATCCCGATCTCAGCGAGCGGGTCTTGGTCTACCGTAAAC 6601
6602 GAGAGAGCTAGTGAAGAGCTGTGCTGCTGCTGATGCTCAACATGAGACAGGCGCCTTG 6661
6602 GAGAGAGCTAGTGAAGAGCTGTGCTGCTGCTGATGCTCAACATGAGACAGGCGCCTTG 6661
6662 ATCAAGCCATGCGTGGCGAGGAAACCAAGCTGCCATCAATGACCTAGAGCAACTTTTG 6721
6662 ATCAAGCCATGCGTGGCGAGGAAACCAAGCTGCCATCAATGACCTAGAGCAACTTTTG 6721
6722 CTCCGTCAACCAACTTGTGTATGCTACACATCTCGCAGCGGAGGCTGCGCAGAG 6781
6722 CTCCGTCAACCAACTTGTGTATGCTACACATCTCGCAGCGGAGGCTGCGCAGAG 6781
6782 AAGGTCACTTTGACAGCTGAGGTCTGAGAGCACTACCGGAGCGTGTCAAGAG 6841
6782 AAGGTCACTTTGACAGCTGAGGTCTGAGAGCACTACCGGAGCGTGTCAAGAG 6841
6842 ATGAAGCGAAGGCGTCCACAGTTAAGGCTAACTTCTATCCGTGAGAGAGCTCTAG 6901
6842 ATGAAGCGAAGGCGTCCACAGTTAAGGCTAACTTCTATCCGTGAGAGAGCTCTAG 6901
6902 CTGAGCGCCCAACATTCGGCGAGATCTAAATTTGGCTATGGGGCAAGAGAGCTCCGAAAC 6961
6902 CTGAGCGCCCAACATTCGGCGAGATCTAAATTTGGCTATGGGGCAAGAGAGCTCCGAAAC 6961

6902 CTGAGCGCCCAACATTCGGCGAGATCTAAATTTGGCTATGGGGCAAGAGAGCTCCGAAAC 6961
6962 CTATCAGCAAGGCGGTTAACACATCCGCTCCGTGGAAGAGACTTGCTGGAAGACACT 7021
6962 CTATCAGCAAGGCGGTTAACACATCCGCTCCGTGGAAGAGACTTGCTGGAAGACACT 7021
7022 GAGACCAACCAATTGACACCAACCATGAGCAAAAAATGAGGTTTTCTGCTCCACAG 7081
7022 GAGACCAACCAATTGACACCAACCATGAGCAAAAAATGAGGTTTTCTGCTCCACAG 7081
7082 AAGGGGGCGGCAAGCCAGCTGCTTATGATATCCAGATTTGGGGGTTGTGTGTC 7141
7082 AAGGGGGCGGCAAGCCAGCTGCTTATGATATCCAGATTTGGGGGTTGTGTGTC 7141
7142 GAGAAATGAGCCCTTACAGATGATGCTCCACCCCTCCAGGGCCGTGATGGGCTTCA 7201
7142 GAGAAATGAGCCCTTACAGATGATGCTCCACCCCTCCAGGGCCGTGATGGGCTTCA 7201
7202 TACGATTTCAATATCTCTCTGAGCAGCGGTCGAGTCTGTGAATGTTGGAAGCG 7261
7202 TACGATTTCAATATCTCTCTGAGCAGCGGTCGAGTCTGTGAATGTTGGAAGCG 7261
7262 AAGAAATGCCCTTATGGGCTTGCATATGACACCGGCTGTTTGACTCAACGCTCATG 7321
7262 AAGAAATGCCCTTATGGGCTTGCATATGACACCGGCTGTTTGACTCAACGCTCATG 7321
7322 AATGACATCCGTGTTGAGAGAGTCAATCTACCAATGTTGATCTTGGCCCCGGAAGCCGA 7381
7322 AATGACATCCGTGTTGAGAGAGTCAATCTACCAATGTTGATCTTGGCCCCGGAAGCCGA 7381
7382 CAGGCAATTAAGTGTGCTCAACAGAGCGGCTTCAATCCGGGGCCCCCTGACTAATTTCTAA 7441
7382 CAGGCAATTAAGTGTGCTCAACAGAGCGGCTTCAATCCGGGGCCCCCTGACTAATTTCTAA 7441
7442 GGGCAGAACTGGGCTATTCGCGGCTGCGCGAGCGGCTGTAAGTCAAGCAAGTGGCGT 7501
7442 GGGCAGAACTGGGCTATTCGCGGCTGCGCGAGCGGCTGTAAGTCAAGCAAGTGGCGT 7501
7442 GGGCAGAACTGGGCTATTCGCGGCTGCGCGAGCGGCTGTAAGTCAAGCAAGTGGCGT 7501
7502 AATACCTCAACATGTTACTTGAAGCGGCTGCGGCTGCTGAGTGGGAAGCTCCAGAGC 7561
7502 AATACCTCAACATGTTACTTGAAGCGGCTGCGGCTGCTGAGTGGGAAGCTCCAGAGC 7561
7562 TGCAAGATGCTCGATGCGAGAGAGCACTTGTGCTTATCTGTGAAGCGCGGAGCCCA 7621
7562 TGCAAGATGCTCGATGCGAGAGAGCACTTGTGCTTATCTGTGAAGCGCGGAGCCCA 7621
7622 GAGGACGAGGCGAGCTTACGCGGCTTCAAGAGGCTATGACTAGTACTGCCCCCT 7681
7622 GAGGACGAGGCGAGCTTACGCGGCTTCAAGAGGCTATGACTAGTACTGCCCCCT 7681
7682 GGGGACCGGCGCAACCAAGAAATGAGATTTGAAGTTAACTATATCTCTCCAAATGTG 7741
7682 GGGGACCGGCGCAACCAAGAAATGAGATTTGAAGTTAACTATATCTCTCCAAATGTG 7741
7742 TCAGTGCGCAGATGATCTGGCAAAAAGGTTGATCTACACCCGTTGACCCCAAC 7801
7742 TCAGTGCGCAGATGATCTGGCAAAAAGGTTGATCTACACCCGTTGACCCCAAC 7801
7802 CCCCTTGGCGGCGTGGTGGAGAGAGCTAGACACTCAGTCAATTCCTGGCTAGGC 7861
7802 CCCCTTGGCGGCGTGGTGGAGAGAGCTAGACACTCAGTCAATTCCTGGCTAGGC 7861
7862 AACATCATATGATGATGGCCCACTTGTGGCAAGATGATCTGATGATCAATTTCTC 7921
7862 AACATCATATGATGATGGCCCACTTGTGGCAAGATGATCTGATGATCAATTTCTC 7921
7922 TCCATCTTCTAGCTCAGAAACACTTGA AAAAGCCCTAGATTTGATCTACGAGGCC 7981
7922 TCCATCTTCTAGCTCAGAAACACTTGA AAAAGCCCTAGATTTGATCTACGAGGCC 7981
7982 TGTATCTCAATGAGCACTTGAACCTTACATATCTTCAAGATCTCAGCGGCTTATG 8041
7982 TGTATCTCAATGAGCACTTGAACCTTACATATCTTCAAGATCTCAGCGGCTTATG 8041

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Db 7982 TGTACTCCATTTGAGCCACTTGACCTACCTCAGATCAATTCAGAGACTCCAGGCTTACG 8041
Qy 8042 GCATTTTCACTCCATTAAGTACTCTTCAGGTGAGATCAATTAAGGTGGCTTCAATGCTTCAAG 8101
Db 8042 GCATTTTCACTCCATTAAGTACTCTTCAGGTGAGATCAATTAAGGTGGCTTCAATGCTTCAAG 8101
Qy 8102 AAATCTGGGGGATCCGGCCCTTGGAGTCTGAGACATCGGGCCAGAAAGTGTCCGGCTAGG 8161
Db 8102 AAATCTGGGGGATCCGGCCCTTGGAGTCTGAGACATCGGGCCAGAAAGTGTCCGGCTAGG 8161
Qy 8162 CTACTGTCCAGGGGGGAGGAGGCTGCCACTTGTGGCAAGTACTCTTCACTGAGGCACTA 8221
Db 8162 CTACTGTCCAGGGGGGAGGAGGCTGCCACTTGTGGCAAGTACTCTTCACTGAGGCACTA 8221
Qy 8222 AGGACCAAGCTCAAACTCATTCTCAATCCGGCTGGCTCCAGTTGATTTATCCAGCTGG 8281
Db 8222 AGGACCAAGCTCAAACTCATTCTCAATCCGGCTGGCTCCAGTTGATTTATCCAGCTGG 8281
Qy 8282 TTGCTGTGCTGTTACAGCGGGGGAGACATATATCAAGCTGTCTCCGTCGGCCGACCCGCG 8341
Db 8282 TTGCTGTGCTGTTACAGCGGGGGAGACATATATCAAGCTGTCTCCGTCGGCCGACCCGCG 8341
Qy 8342 TGGTTCAGTGTGCTTACTCTCTTCTGTAGGGGAGGCACTTATCTATCTCCCAAC 8401
Db 8342 TGGTTCAGTGTGCTTACTCTCTTCTGTAGGGGAGGCACTTATCTATCTCCCAAC 8401
Qy 8402 CGATGAAAGGGAGTAAACACTCCAGGCCAATAGGCCATCTGTTTTTCCCTTTTT 8461
Db 8402 CGATGAAAGGGAGTAAACACTCCAGGCCAATAGGCCATCTGTTTTTCCCTTTTT 8461
Qy 8462 CCCTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTT 8521
Db 8462 ----TTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTT 8521
Qy 8522 TCCCTTTTTTTTTTCTTTTCTTTCTTTGCTGCTCATCTTAAGCCCTAAGTCAAGGCTA 8581
Db 8512 TTTCCTCTTTTCTTTTCTTTTCTTTGCTGCTCATCTTAAGCCCTAAGTCAAGGCTA 8571
Qy 8582 GCTGTGAAGGTCCTGTGAGCCGCTTGAATGAGAGAGTGTGATCTGAGCCCTCTCTGAG 8641
Db 8572 GCTGTGAAGGTCCTGTGAGCCGCTTGAATGAGAGAGTGTGATCTGAGCCCTCTCTGAG 8631
Qy 8642 ATCAAGT 8648
Db 8632 ATCAAGT 8638
```

RESULT 6

```
US-10-789-355-6-COPY/c
; Sequence 6, Application US/10789355
; GENERAL INFORMATION:
; APPLICANT: BOEHRINGER INGELHEIM (CANADA) LTD.
; TITLE OF INVENTION: SELF REPLICATING RNA MOLECULE FROM
; FILE REFERENCE: 13/083
; CURRENT APPLICATION NUMBER: US/10/789,355
; PRIOR FILING DATE: 2004-02-27
; PRIOR APPLICATION NUMBER: US/10/029,907
; PRIOR FILING DATE: 2001-12-21
; PRIOR APPLICATION NUMBER: 60/257,857
; NUMBER OF SEQ ID NOS: 25
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 6
; LENGTH: 8638
; TYPE: DNA
; ORGANISM: HCV
; FEATURE:
; NAME/KEY: CDS
; LOCATION: (1802)...(8407)
; US-10-789-355-6-COPY
```

Query Match 0.4%; Score 33.4; DB 1; Length 8638;

```
Best Local Similarity 49.2%; Pred. No. 0;
Matches 88; Conservative 0; Mismatches 91; Indels 0; Gaps 0;
Qy 6120 AGTAGTAATTTTGAATCTTTTGAAGCCGCTCCAGCGGAGGAGATGAGAGGAATAT 6179
Db 6298 AGGAGCGTAGTCCGGGCTCTTCCAGACTTAACTAGTGGGTTTAAATCCGGGCTGC 6239
Qy 6180 CCGTTCCGGGAGATCTCTGAGAGGTCAGAAATTTCCCTGAGCGATGCCATATGG 6239
Db 6238 CCAATGCGCATCTCGAGGGAATTTCTGAGCTTCCGAGAAATTTCCGCGGAAAGCA 6179
Qy 6240 CAGCCCGGATTAACAACCTTCACTGTATGATCTGGAAGACCGGACTAGCTCCT 6298
Db 6178 TACTTCCCTCTCATTCCTCTCCGCTTGAGCGGCTGAAAGATCCAAATTAATACT 6120
```

RESULT 7

```
US-10-789-355-7-COPY/c
; Sequence 7, Application US/10789355
; GENERAL INFORMATION:
; APPLICANT: BOEHRINGER INGELHEIM (CANADA) LTD.
; TITLE OF INVENTION: SELF REPLICATING RNA MOLECULE FROM
; FILE REFERENCE: 13/083
; CURRENT APPLICATION NUMBER: US/10/789,355
; PRIOR FILING DATE: 2004-02-27
; PRIOR APPLICATION NUMBER: US/10/029,907
; PRIOR FILING DATE: 2001-12-21
; PRIOR APPLICATION NUMBER: 60/257,857
; NUMBER OF SEQ ID NOS: 25
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 7
; LENGTH: 8638
; TYPE: DNA
; ORGANISM: HCV
; FEATURE:
; NAME/KEY: CDS
; LOCATION: (1802)...(8407)
; US-10-789-355-7-COPY
```

Query Match 0.4%; Score 33.4; DB 1; Length 8638;
Best Local Similarity 49.2%; Pred. No. 0;
Matches 88; Conservative 0; Mismatches 91; Indels 0; Gaps 0;

```
Qy 6120 AGTAGTAATTTTGAATCTTTTGAAGCCGCTCCAGCGGAGGAGATGAGAGGAATAT 6179
Db 6298 AGGAGCGTAGTCCGGGCTCTTCCAGACTTAACTAGTGGGTTTAAATCCGGGCTGC 6239
Qy 6180 CCGTTCCGGGAGATCTCTGAGAGGTCAGAAATTTCCCTGAGCGATGCCATATGG 6239
Db 6238 CCAATGCGCATCTCGAGGGAATTTCTGAGCTTCCGAGAAATTTCCGCGGAAAGCA 6179
Qy 6240 CAGCCCGGATTAACAACCTTCACTGTATGATCTGGAAGACCGGACTAGCTCCT 6298
Db 6178 TACTTCCCTCTCATTCCTCTCCGCTTGAGCGGCTGAAAGATCCAAATTAATACT 6120
```

RESULT 8

```
US-10-789-355-25-COPY/c
; Sequence 25, Application US/10789355
; GENERAL INFORMATION:
; APPLICANT: BOEHRINGER INGELHEIM (CANADA) LTD.
; TITLE OF INVENTION: SELF REPLICATING RNA MOLECULE FROM
; FILE REFERENCE: 13/083
; CURRENT APPLICATION NUMBER: US/10/789,355
; PRIOR FILING DATE: 2004-02-27
; PRIOR APPLICATION NUMBER: US/10/029,907
; PRIOR FILING DATE: 2001-12-21
; PRIOR APPLICATION NUMBER: 60/257,857
; NUMBER OF SEQ ID NOS: 25
```

SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 25
; LENGTH: 8638
; TYPE: DNA
; ORGANISM: HCV
; FEATURE:
; NAME/KEY: CDS
; LOCATION: (1802)...(8407)
US-10-789-355-25-COPY

Query Match 0.4%; Score 33.4; DB 1; Length 8638;
Best Local Similarity 49.2%; Pred. No. 0;
Matches 88; Conservative 0; Mismatches 91; Indels 0; Gaps 0;

QY 6120 AGGTAGTAATTTTGGACTTTTTCAGCCGCTCCCAAGCGAGAGATGAGAGGAATAT 6179
DB 6298 AGGAGCGTAGTCGGGGTCTTCAGAGACTCTAAGATGAGAGGTTGTAATCCGGGGTGC 6239
QY 6180 CCGTTCCGGCGGAGATCCCGGAGGTCCAGGAATTCCTTCGAGCGATGCCATATGGG 6239
DB 6238 CCAATGGGCAATCGCTCGAGGAAATTTCTTGACCTCCGAGATCTCCGCGGAACGGA 6179
QY 6240 CAGCCCGGATTAACAACCTCCACTGTAGTCTTGAGAGACCGGAGCTACGTCCCT 6298
DB 6178 TACTTCCCTCATCTCTCTCCGCTTGAGCGGCTCGAAGAGTCAAAATTAATTAATCT 6120

RESULT 9
US-10-789-355-2-COPY/c

; Sequence 2, Application US/10789355
; GENERAL INFORMATION:
; APPLICANT: BOEHRINGER INGELHEIM (CANADA) LTD.
; TITLE OF INVENTION: SELF REPLICATING RNA MOLECULE FROM
; FILE REFERENCE: 13/083
; CURRENT APPLICATION NUMBER: US/10/789,355
; PRIOR FILING DATE: 2004-02-27
; PRIOR APPLICATION NUMBER: US/10/029,907
; PRIOR FILING DATE: 2001-12-21
; PRIOR APPLICATION NUMBER: 60/257,857
; PRIOR FILING DATE: 2000-12-22
; NUMBER OF SEQ ID NOS: 25
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 2
; LENGTH: 8642
; TYPE: DNA
; ORGANISM: HCV
; FEATURE:
; NAME/KEY: CDS
; LOCATION: (1802)...(8407)
; FEATURE:
; NAME/KEY: variation
; LOCATION: 6268
; OTHER INFORMATION: r = a or g
; FEATURE:
; NAME/KEY: variation
; LOCATION: 4446
; OTHER INFORMATION: r = a or g
US-10-789-355-2-COPY

Query Match 0.4%; Score 33; DB 1; Length 8642;

Best Local Similarity 48.6%; Pred. No. 0;
Matches 87; Conservative 1; Mismatches 91; Indels 0; Gaps 0;

QY 6120 AGGTAGTAATTTTGGACTTTTTCAGCCGCTCCCAAGCGAGAGATGAGAGGAATAT 6179
DB 6298 AGGAGCGTAGTCGGGGTCTTCAGAGACTCTAAGATGAGAGGTTGTAATCCGGGGTGC 6239
QY 6180 CCGTTCCGGCGGAGATCCCGGAGGTCCAGGAATTCCTTCGAGCGATGCCATATGGG 6239
DB 6238 CCAATGGGCAATCGCTCGAGGAAATTTCTTGACCTCCGAGATCTCCGCGGAACGGA 6179
QY 6240 CAGCCCGGATTAACAACCTCCACTGTAGTCTTGAGAGACCGGAGCTACGTCCCT 6298

DB 6178 TACTTCCCTCATCTCTCTCCGCTTGAGCGGCTCGAAGAGTCAAAATTAATTAATCT 6120

RESULT 10

US-10-789-355-4-COPY/c

; Sequence 4, Application US/10789355
; GENERAL INFORMATION:
; APPLICANT: BOEHRINGER INGELHEIM (CANADA) LTD.
; TITLE OF INVENTION: SELF REPLICATING RNA MOLECULE FROM
; FILE REFERENCE: 13/083
; CURRENT APPLICATION NUMBER: US/10/789,355
; PRIOR FILING DATE: 2004-02-27
; PRIOR APPLICATION NUMBER: US/10/029,907
; PRIOR FILING DATE: 2001-12-21
; PRIOR APPLICATION NUMBER: 60/257,857
; NUMBER OF SEQ ID NOS: 25
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 4
; LENGTH: 8643
; TYPE: DNA
; ORGANISM: HCV
; FEATURE:
; NAME/KEY: CDS
; LOCATION: (1802)...(8407)
US-10-789-355-4-COPY

Query Match 0.4%; Score 31.8; DB 1; Length 8643;

Best Local Similarity 64.0%; Pred. No. 0;
Matches 48; Conservative 0; Mismatches 27; Indels 0; Gaps 0;

QY 858 CTGACGAAAGACATCAAGGGGCTCGCCGACCGAAGCTTGCCAGGCTCAAGGCGCG 917
DB 932 CTCGCGCGGCAATGCGCGCTTGAGCTTGCGAAGCTTGCGCGGAGCGCCCTG 873
QY 918 ATGCCCGAGCGCGAG 932
DB 872 ATGCTTCTGTCAG 858

Search completed: March 14, 2007, 15:36:50
Job time : 38 secs

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